Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

SEED LOSSES CUT through Research

N-33445-USDA-Oregon Agricultural Experiment Station studies at Corvallis show that shatter-losses of birds-foot trefoil seed are reduced 35 percent by harvesting on wide sheets of plastic. When cured, the crop is combined on the plastic and after shattered seed is gathered up, the plastic is rerolled.

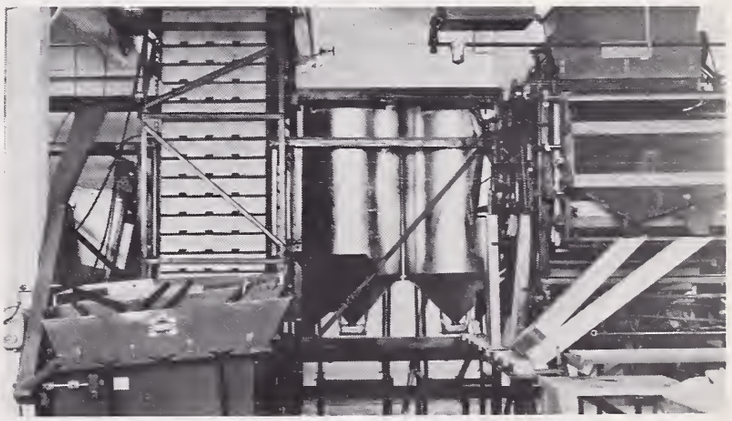
New and improved equipment and techniques for producing and farm-processing small grass and legume seed are being developed by U. S. Department of Agriculture engineers to reduce losses caused by field-shattering, processing damage, and weed-seed contamination.

The research is conducted at the cooperative USDA-Oregon Agricultural Experiment Station seed laboratory at Corvallis, Oreg., under Jesse E. Harmond of USDA's Agricultural Research Service.

Grass and legume seed produced in this country each year is valued at about $200,000,000 and an additional quantity worth about $15,000,000 is imported. Losses through harvesting and processing frequently total as high as 50 percent.

Equipment and methods under test to provide means of recovering seed that otherwise would be lost include: harvesting on plastic sheets, a moisture meter, "fluidized" conveyor, single-story seed plant, modified-indent cylinder and vacuum system, vibrator-feeder, automatic seed separator, and electrostatic seed separator. These methods are illustrated and described in the accompanying pictures.

N-33443-Farmers who produce grasses and legumes may soon be using a special meter to determine moisture content of the crops as an aid in calculating the best time for harvesting. Leonard M. Klein of the USDA Agricultural Research Service demonstrates device on a representative sample of birdsfoot trefoil.



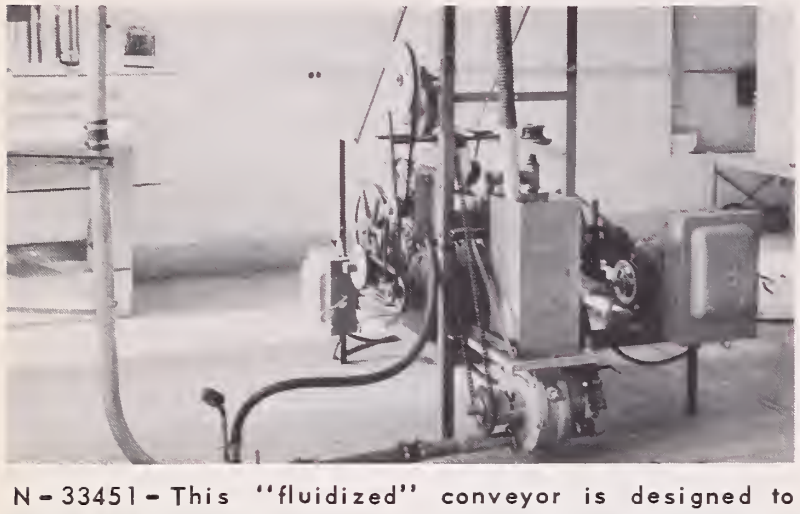
BN-9114X-USDA agricultural engineers at Corvallis, Oreg., are studying a new type of one-story seed-cleaning plant designed for high operating efficiency. It could replace conventional plants that are several stories high and difficult to operate and maintain.

U. S. DEPARTMENT OF AGRICULTURE Picture Story No. 124
Office of Information February 1960

Magazines and newspapers may obtain glossy prints of any of these photographs from the Photography Division, Office of Information, U. S. Department of Agriculture, Washington 25, D. C. Others may purchase prints (8 x 10) at $1.00 each from the same address.

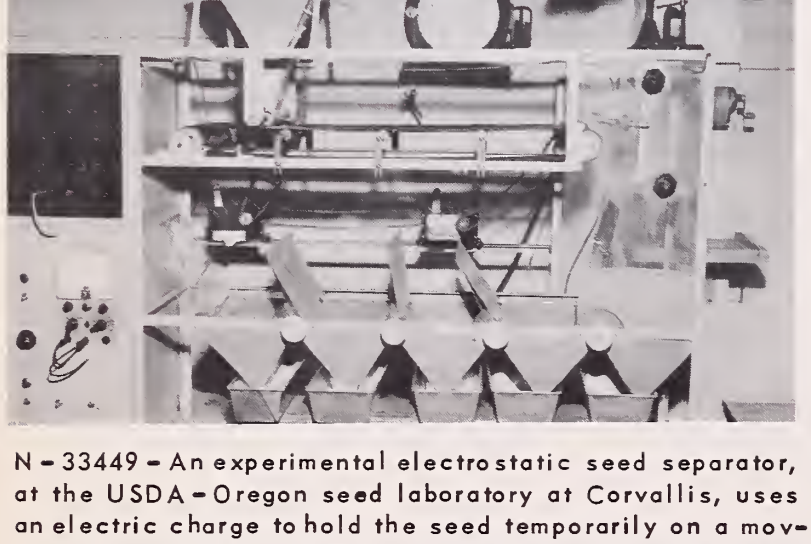
N-33441-Leonard M. Klein of the USDA Agricultural Research Service easily thrusts his hand into an experimental bale to show the type of loose bale now being studied. Combining these loose bales, and shocks shown in the background, reduces shatter-loss of birdsfoot trefoil by 35 percent.

N-33448-This vibrator-feeder is being developed by USDA-Oregon Agricultural Experiment Station cooperative research for more efficient processing of grass and legume seed. It will perform several operations in seed laboratories, such as passing seed of any size under a microscope for inspection or through an electronic field for counting.

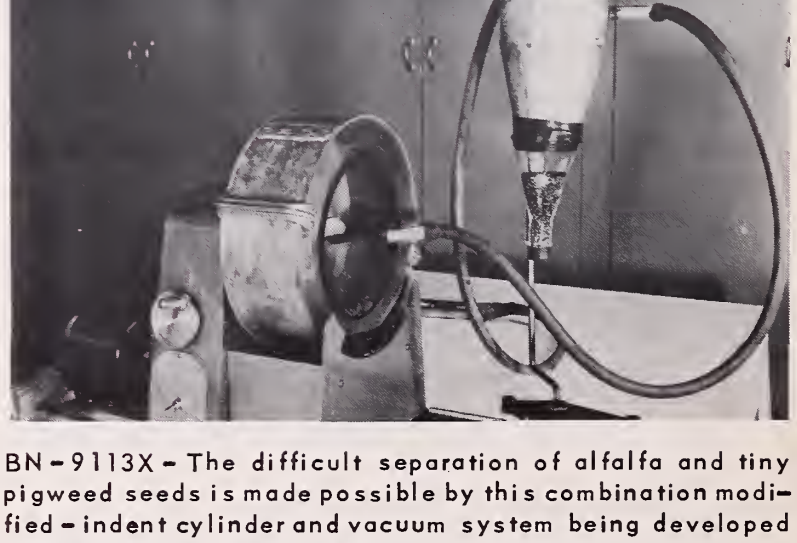


N-33451-This "fluidized" conveyor is designed to move seed under low pressure through pipes without the usual damage to seed caused by high-speed pneumatic conveyor systems. The experimental conveyor at the USDA-Oregon Agricultural Station seed laboratory at Corvallis moves up to 3,000 pounds of seed per hour at low velocities through a 1½ inch pipe.

N-33446-This automatic seed separator at the USDA-Oregon seed laboratory, Corvallis, has a vibrating table that may be adjusted to make use of differences in surface, shape, texture, and weight of seed. Under vibration, different seeds form in paths and drop off the table into small containers.



N-33449-An experimental electrostatic seed separator, at the USDA-Oregon seed laboratory at Corvallis, uses an electric charge to hold the seed temporarily on a moving conveyor belt at the top of the device. As the seeds lose their electric charge at a certain point, they drop from the belt into appropriate containers.



BN-9113X-The difficult separation of alfalfa and tiny pigweed seeds is made possible by this combination modified-indent cylinder and vacuum system being developed at the USDA-Oregon seed laboratory at Corvallis. Pigweed seeds drop into indents inside the revolving cylinder and are sucked away through a flexible pipe. Pigweed contamination costs the seed industry millions of dollars a year.